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The impact of principal leadership behaviors on instructional practice and student engagement

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Abstract *For decades educators have espoused the importance of the principal as the instructional leader of the school. The purpose of this study was to identify the relationship between principal leadership behaviors and teacher instructional practice descriptors. This relationship was observed among schools participating in a systemic school improvement process. The study included eight elementary, eight middle, and eight high schools in the USA. Teachers in each school were surveyed on the principal's instructional leadership abilities. Student and teacher engagement data were collected through school-wide observations using the instructional practices inventory. Instructional leadership dimensions were found to correlate highly with instructional practice descriptors. This study confirms the significance of instructional leadership and provides specific insight into the nature of that leadership.*

Defining instructional leadership

The importance of the principal's role as an instructional leader and the direct relationship on changing instructional practice to improve student performance has been researched extensively. Leithwood (1994, p. 3) describes instructional leadership as a series of behaviors that is designed to affect classroom instruction. In this environment, principals are responsible for informing teachers about new educational strategies, technologies and tools that apply to effective instruction. Principals must also assist teachers in critiquing these tools to determine their applicability to the classroom (Whitaker, 1997).

Researchers agree that the principal must be a strong instructional leader, though they do not always agree on a definition or the characteristics that embody instructional leadership. In his vision for improving schools, Barth (1990, p. 64) declared, "Show me a good school, and I'll show you a good principal". This phrase captures the essential belief of researchers who study instructional leadership. When the concept of instructional leadership first emerged, principals were thought to be effective if they led a school by setting clear expectations, maintaining firm discipline, and creating high standards. Current research reveals that the indicators for effective instructional leadership involve a number of variables.

Foriska (1994) described instructional leadership as critical to the development and maintenance of an effective school. Instructional leaders must influence others to pair appropriate instructional practices with their best

knowledge of the subject matter. The focus must always be on student Active Teaching, and principals must supply teachers with resources and incentives to keep their focus on students.

Jantzi and Leithwood (1996, pp. 514-15) defined six dimensions critical in the practice of leadership including:

(1) identifying and articulating a vision;
(2) fostering the acceptance of group goals;
(3) providing individualized support;
(4) intellectual stimulation;
(5) providing an appropriate model; and
(6) high performance expectations.

Andrews and Soder (1987, pp. 9-20) described the effective instructional leader as a principal performing at high levels in four areas – resource provider, instructional resource, communicator, and visible presence in the school:

(1) As *resource provider*, the principal takes action to marshal personnel and resources within the building, district, and community to achieve the school's vision and goals. These resources may be seen as materials, information, or opportunities, with the principal acting as a broker.

(2) As *instructional resource*, the principal sets expectations for continual improvement of the instructional program and actively engages in staff development. Through this involvement, the principal participates in the improvement of classroom circumstances that enhance Active Teaching.

(3) As *communicator*, the principal models commitment to school goals, articulates a vision toward instructional goals and the means for integrating instructional planning and goal attainment, and sets and adheres to clear performance standards for instruction and teacher behavior.

(4) As *visible presence*, the principal is out and around in the school, visiting classrooms, attending departmental or grade-level meetings, walking the hallways, and holding spontaneous conversations with staff and students.

In their research on instructional leadership, Andrews and Soder (1987) found that student achievement data revealed that the gain scores of students in strong-leader schools were significantly greater in both reading and mathematics than those of students in schools with average or weak leadership. However, Heck *et al.* (1990) acknowledge that principal behaviors aimed at improving student achievement do not have the same direct impact on learners as does instruction by the classroom teacher. Siens and Ebmeier (1996) concur and found that while principals have strong, direct effects on intermediate school variables, such as teacher attitudes, they have little direct

effect on student outcomes. Removed from the classroom, principals can only influence student achievement indirectly by working through the teaching staff.

Heck (1992) studied instructional leadership behaviors of elementary and high school principals in high achieving and low achieving schools to determine whether school performance could be predicted through examination of behaviors. Heck (1992) surveyed principals on eight instructional leadership tasks:

(1) makes regular class visits;

(2) promotes discussion of instructional issues;

(3) minimizes class interruptions;

(4) emphasizes test results;

(5) participates in discussion about how instruction affects achievement;

(6) ensures systematic monitoring of student progress;

(7) communicates instructional goals; and

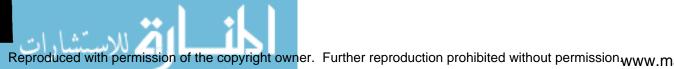(8) protects faculty from external pressures.

The results indicated that principals in high-achieving schools, as measured by academic achievement in a variety of areas, are more effective instructional leaders than their counterparts in consistently low-achieving schools.

Instructional leadership is not necessarily defined as the same for principals of elementary schools and principals in secondary schools. Larsen and Hartry (1987) found there were major differences between elementary and secondary principals and teachers' perceptions of how instructional leadership behaviors were being implemented in six categories of instructional leadership. The categories included goal setting, school-community relations, supervision and evaluation, school climate, instructional coordination and staff development.

Johnson and Holdaway (1990) also examined instructional leadership among elementary and secondary principals and found disparities between the two levels. Elementary principals often were personally more involved in planning and instructional supervision, whereas secondary school principals tended to delegate leadership responsibilities and influence instruction indirectly and symbolically. Leadership at the building level clearly influences student achievement and school effectiveness, but it has been difficult for researchers to directly link principal attributes to academic growth (Heck, 1993).

Examining instructional practice

Darling-Hammond and McLaughlin (1995) cite a number of studies which found that teaching behaviors deemed effective in some situations are ineffective or even counterproductive when used too much or in the wrong circumstances. Students' performance on tasks requiring higher-order skills, creativity, and problem-solving ability benefits from very different

instructional approaches. Effective teaching behaviors vary depending on student characteristics, subject matter demands, and instructional goals.

Historically, teacher-directed instruction has been the method of choice for educators. John Goodlad's study of the actions of US students and teachers in classrooms nationwide revealed that the predominant instructional style is:

> ... frontal teaching: In most classrooms, the teacher is active and the students are passive. Teachers lecture, write on the board, and work with groups. Students, for the most part, are expected to listen and watch – and to do worksheets (Carbo, 1996, p. 64).

A more effective and engaging type of instruction is teacher-led conversation. Wilen (1990) argued that class discussions (conversations) that are educative, reflective, and structured promote critical thinking, engage students in social interaction, and let them take responsibility for their own learning. According to Cazden (1988), proponents have advocated shifting from recitation to real discussion or classroom talk where ideas are explored rather than answering questions from a teacher's test. This teaching method is in harmony with Vygotsky's belief that language is not only a means of communication; it also helps learners broaden and deepen their understanding of ideas.

Current research has shown that the most effective instructional practice that teachers can utilize is active learning. Stooksberry (1996, p. 358) states that:

> Active learning means learning by doing, or meaningfully interacting in an event, either intellectually, socially, emotionally, aesthetically, or physically.

And Duignan (1986, p. 66) believes:

> Teachers must provide opportunities for students to be actively involved in the classroom so they can demonstrate the fruits of their learning.

The outcome of active learning is usually the creation of something new:

> ... such as a cause-effect relationship between two ideas, an inference, or an elaboration, and it always leads to deeper understanding. However, students do not spontaneously engage in active learning; they must be prompted to do so. Therefore we need to provide opportunities for active learning to take place (King, 1993, p. 31).

This research presents the necessity for principals and teachers to work together towards this end.

One of the factors most consistently linked to higher levels of student learning is academic learning time:

> Active learning time, defined as the amount of time that students are actively engaged in academic activities on which they are experiencing high rates of success, is a direct correlate to student achievement (Murphy, 1992, pp. 19-20).

If the goal is to use time more effectively, then teachers should be developing objectives that augment active student engagement.

While the literature is replete with research on student engagement (Carbo, 1996; Duignan, 1986; King, 1993; Murphy, 1992; Wilen, 1990), few studies define engagement in the same manner. Active engagement of students

can be described as a product of instructional practices, in which teacher behaviors:

> ... cause or enable students to actively participate in the learning process, rather than passively accept information from others (Painter, 1998, p. 51).

A common predicament that principals encounter as instructional leaders is the growing complexity of current visions of teaching and learning. The shift from pedagogical approaches that are based in transfer technologies (e.g. lecture, drill and practice, worksheets) to approaches that are more constructivist in approach (e.g. hands-on approaches, problem-based learning, and inquiry approaches) has profound implications for the nature of practice. These instructional approaches seek to promote a more active learning process and require greater content knowledge and subtlety in instructional practice than do more passive approaches to teaching and learning (Brown, 1993; DeStefano and Gordon, 1986).

Linking instructional leadership with instructional practice

Pre-eminent in the principal's role as an instructional leader is the ability to motivate and inspire teachers with the end-goal of impacting instructional practice and ultimately student achievement:

> Research on school effectiveness concluded that strong administrative leadership was among those factors within the school that make a difference in student learning (Hallinger and Heck, 1996, p. 5).

Bossert *et al.* (1982) suggest that principals could have a positive impact on a variety of in-school factors, and at least indirectly affect the achievement of students. Jackson (1982) found weak but positive effects of principal behaviors on student learning at the elementary level and according to Rowan and Denk (1984) the effects of leadership were significantly present in schools with low SES, whereas the relationship was negligible in high SES schools.

In Andrews and Soder's (1987) research they found that a significant relationship existed between leadership and student outcomes across all schools for reading and math. However, when school socioeconomic status was taken into consideration, all significant relationships between principal leadership and student outcomes were annulled for high SES schools. The relationship did persist for low SES schools.

In a discussion of principal leadership and the impact on student achievement, Heck and Marcoulides (1993, pp. 23-6) concluded:

> Effects of principal instructional leadership on student outcomes at both levels are not strong, as researchers have suspected, but collectively they do suggest that through manipulating a series of variables at the school level, both secondary and elementary school principals can have a similar positive influence on school achievement ... After controlling for "hard to change" contextual variables such as socioeconomic status and language background, our model identifies positive effects of principal leadership that help explain the elementary or secondary school's performance at lower or higher academic levels. Thus, the principal must now be considered as one "school effects" variable that directly influences school achievement.

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Principals are becoming progressively more accomplished in measuring student engagement rates and in helping teachers to fashion techniques based on those assessments to improve student learning. Murphy (1992, p. 20) developed a framework that illustrates available time for learning. The following six dimensions can be understood as nested boxes that become continually smaller, depicting the limited amount of time at hand for the goal of academic learning time:

(1) opportunity time;

(2) relevant instructional time;

(3) allocated academic time;

(4) instructional time;

(5) engaged time; and

(6) academic learning time – the amount of engaged time in which students are experiencing high rates of success.

There is no single leadership style or approach that is fitting for all school settings. It is clear, however, that a narrow focus on management issues alone is a disservice to teachers and students. Principals must provide instructional leadership to facilitate and promote active learning experiences for all students. Through their words and their actions, principals model the importance of students being actively engaged in their learning and highlight the achievement gains that are a product of this engagement.

Purpose of the study

How can principals encourage and collaborate with teachers to create an environment that values and supports student engagement? This study was designed to identify correlational relationships between principal leadership behaviors and instructional practice descriptors and determine whether there were predictive relationships for the instructional leadership subscales with each of the instructional practices inventory scales. The data were collected during Project ASSIST (achieving success through school improvement site teams), a systemic school improvement process. The principal leadership behaviors were the principal as a:

- resource provider;

- instructional resource;

- communicator; and

- visible presence (Andrews and Soder, 1987).

The instructional practice descriptors utilized include:

- active learning/active teaching;

- teacher-led conversation;

- teacher-led instruction;

- student seatwork/teacher engaged;
- student seatwork/teacher disengaged; and
- total disengagement (Painter, 1998).

Method
Participants
The population of this study was limited to schools participating in project ASSIST. Project ASSIST was coordinated by the Middle Level Leadership Center (MLLC), located at the University of Missouri-Columbia. Project ASSIST was a systemic school improvement project involving 24 schools located across Missouri. These schools consisted of eight elementary schools, eight middle schools, and eight high schools. Urban, suburban, and rural school settings with a variety of socioeconomic levels were represented. Participating schools agreed to a two-year commitment. The decision to participate was made by district administrators, site administrators, and/or school faculty. All schools participating in the project were included in this study.

Instrumentation
Two instruments were used in this study to collect data. The staff assessment questionnaire (SAQ) (Andrews and Soder, 1987) was used to identify and examine four dimensions of instructional leadership (Appendix 1). The instructional practices inventory (Painter and Valentine, 1996) (Table I) was used to identify the level of classroom engagement for students and teachers. A rubric (Figure 1) was created using the instructional practices inventory (IPI) to assist in student engagement level identification.

Staff assessment questionnaire (SAQ). This instrument was developed between 1984 and 1986 as a collaborative effort between the Seattle School district and the University of Washington (Andrews and Soder, 1987). The instrument is composed of 94 Likert-type items which measure the following school organizational characteristics:

- strong leadership;
- dedicated staff;
- frequent monitoring of student progress;
- high expectations;
- positive learning climate;
- early identification of learning problems;
- curriculum continuity;
- multicultural education; and
- sex equity.

Categories	Subcategories	Description
Student-engaged instruction	Active learning/ active teaching	This includes authentic project work, cooperative learning, hands-on learning, demonstrations, active research and the use of higher-order thinking skills
	Teacher-led conversation	There is active conversation with all engaged. Instruction is teacher-led but not directed and all ideas are encouraged and discussed
Teacher-directed instruction	Teacher-led instruction	Student learning occurs through teacher instruction, lecture, question and answer time, teacher giving directions, or video instruction with teacher interaction. Discussion may occur, but instruction and ideas come primarily from the teacher
	Student seatwork/teacher engaged	The students are working at their seats on worksheets, bookwork, tests, individual reading, etc. Teacher assistance and/or movement about the room is prevalent
Teacher disengaged from instruction	Student seatwork/teacher disengaged	The students are working at their seats on worksheets, bookwork, tests, individual reading, etc. Teacher assistance and/or movement about the room is not prevalent
	Total disengagement	Neither the teacher nor the students are engaged in learning or teaching

Table I.
Instructional practices inventory

Source: Painter and Valentine (1996) – revised by Middle Level Leadership Center (1998) – use with written permission only

For the purpose of this study, attention was given to the "strong leadership" characteristic; this scale included 19 items with a reliability of 0.73. Within this scale, four subscales of instructional leadership identified the interactions between the principal and teachers. They include the principal as:

(1) resource provider;
(2) instructional resource;
(3) communicator; and
(4) visible presence.

A random selection of one-third of the faculty at each school completed the questionnaire, and a cumulative school score was calculated for each characteristic.

Instructional practices inventory (IPI). The IPI was developed in 1996 at the University of Missouri (Painter and Valentine, 1996). Initial observations are coded as one of six types of teacher-student instructional engagement. The types of engagement include:

(1) active learning/active teaching;
(2) teacher-led conversation;

Figure 1.
Instructional practices
inventory – rubric

Source: Developed by the Middle Level Leadership Center (1998)

(3) teacher-led instruction;

(4) student seatwork/teacher engaged;

(5) student seatwork/teacher disengaged; and

(6) total disengagement.

Observations were made by seven educational researchers, each of whom received the same instruction and training to be certified as reliable data collectors. Prior to data collection, inter-rater reliability was determined using videotaped segments of classroom instruction. An expert in classroom instruction and classroom analysis developed the reliability testing process and established the appropriate coding behavior against which the data collectors were compared. The seven observers had a greater than 0.875 correlation with the correct response and greater than 0.80 correlation with the other observers.

Data collection procedures

The staff assessment questionnaire was completed by one-third of the instructional faculty, chosen randomly, at each of the 24 schools participating in Project ASSIST. Protocols designed by the Middle Level Leadership Center to maintain anonymity were developed and implemented during data collection and analysis. Data were scored and an aggregate school score was determined.

Instructional practices data were collected using the IPI. Observers spent one day in each school, conducting repetitive classroom observations throughout the school day. Observational protocol and procedures (Appendix 2) were maintained by observers to ensure consistency. Classrooms were systematically observed for periods of one to three minutes, at which time behaviors were categorized and observations were recorded. To ensure that typical classroom activity was being observed, no observations were made during the first or last five minutes of class periods in middle and high schools or during major transitions in elementary schools. To diminish observer interruption of the class, notes and ratings were made immediately after the observer left the classroom. A minimum of 100 observations were made in each school. After the observations were collected, data were analyzed, yielding observation percentages for each of the six engagement levels.

Data analysis

Pearson-product moment correlational analysis was used to determine if any of the four instructional leadership subscales (resource provider, instructional resource, communicator, and visible presence) from the SAQ correlated with the instructional practices subscales (active learning/active teaching, teacher-led conversation, teacher-led instruction, student seatwork/teacher engaged, student seatwork/teacher disengaged, and total disengagement) as measured by the IPI.

Multiple linear regression was used to identify leadership factors that predicted instructional practice. The four subscales of instructional leadership

(resource provider, instructional resource, communicator, and visible presence) from the SAQ were used as the predictor variables for each of the six IPI scales (active learning/active teaching, teacher-led conversation, teacher-led instruction, student seatwork/teacher engaged, student seatwork/teacher disengaged, and total disengagement).

Results
Correlation between instructional leadership and instructional practice

A correlation matrix (Table II) was developed to show the relationships between teachers' perceptions of instructional leadership variables (independent variables) and student engagement variables (dependent variables). The Pearson-product moment correlational coefficient was utilized and a 0.05 level of significance was established for all correlations. To describe the degree of relationships, a correlational coefficient of 0.50 represents a large effect size, a 0.30 represents a medium effect size, and a 0.10 represents a small effect size (Cohen, 1988).

IPI rawscore correlated significantly with instructional leadership factor at a large effect size of 0.507 ($p < 0.05$). In schools where teachers described their principal as more competent on the instructional leadership factor the IPI rawscore tended to be higher. The IPI rawscore correlated significantly with resource provider at a medium effect size of 0.456 ($p < 0.05$). In schools where teachers described their principal as more effective on the resource provider subscale the IPI rawscore tended to be higher. The IPI rawscore correlated significantly with instructional resource at a large effect size of 0.596 ($p < 0.01$). In schools where teachers described their principal as more capable on the resource provider subscale the IPI rawscore tended to be higher. The IPI rawscore correlated significantly with communicator at a medium effect size of 0.496 ($p < 0.05$). In schools where teachers described their principal as more proficient on the communicator subscale the IPI rawscore tended to be higher.

Active learning/active teaching correlated significantly with instructional leadership factor at a medium effect size of 0.481 ($p < 0.05$). In schools where teachers described their principal as more effective on the instructional leadership factor the IPI subscale of active learning/active teaching tended to be higher. Active learning/active teaching correlated significantly with resource provider at a medium effect size of 0.420 ($p < 0.05$). In schools where teachers described their principal as more capable on the resource provider subscale the IPI subscale of active learning/active teaching tended to be higher. Active learning/active teaching correlated significantly with instructional resource at a large effect size of 0.544 ($p < 0.01$). In schools where teachers described their principal as more adept on the instructional resource subscale the IPI subscale of active learning/active teaching tended to be higher. Active learning/active teaching correlated significantly with communicator at a medium effect size of 0.465 ($p < 0.05$). In schools where teachers described their principal as more adept on the communicator subscale the IPI subscale of active learning/active teaching tended to be higher.

Table II.
Correlational relationship between teachers' perceptions of SAQ strong leadership factor and subscales with IPI rawscores and scales

IPI rawscore	Instructional leadership factor 0.507, p = 0.011*	Resource provider 0.456, p = 0.025*	Instructional resource 0.596, p = 0.002**	Communicator 0.496, p = 0.014*	Visible presence 0.373, p = 0.073
Active learning/active teaching	0.481, p = 0.017*	0.420, p = 0.041*	0.544, p = 0.006**	0.465, p = 0.022*	0.386, p = 0.062
Teacher-led conversation	0.108, p = 0.617	0.099, p = 0.645	0.012, p = 0.956	0.159, p = 0.459	0.104, p = 0.630
Teacher-led instruction	0.096, p = 0.657	0.119, p = 0.579	0.152, p = 0.480	0.083, p = 0.699	0.029, p = 0.892
Student seatwork/teacher engaged	−0.341, p = 0.103	−0.312, p = 0.138	−0.302, p = 0.151	−0.316, p = 0.133	−0.341, p = 0.103
Student seatwork/teacher disengaged	−0.444, p = 0.030*	−0.397, p = 0.055	−0.563, p = 0.004**	−0.405, p = 0.049*	−0.329, p = 0.117
Total disengagement	−0.411, p = 0.046*	−0.384, p = 0.064	−0.538, p = 0.007**	−0.430, p = 0.036*	−0.223, p = 0.296

Notes: * $p < 0.05$ ** $p < 0.01$

Student seatwork/teacher disengaged had a significant negative correlation with instructional leadership factor at a medium effect size of -0.444 ($p < 0.05$). In schools where teachers described their principal as less capable on the instructional leadership factor the IPI subscale of student seatwork/teacher disengaged tended to be higher. Student seatwork/teacher disengaged had a significant negative correlation with instructional resource at a large effect size of -0.563 ($p < 0.01$). In schools where teachers described their principal as less proficient on the instructional resource subscale the IPI subscale of student seatwork/teacher disengaged tended to be higher. Student seatwork/teacher disengaged had a significant negative correlation with communicator at a medium effect size of -0.405 ($p < 0.05$). In schools where teachers described their principal as less accomplished on the communicator subscale the IPI subscale of student seatwork/teacher disengaged tended to be higher.

Total disengagement had a significant negative correlation with instructional leadership factor at a medium effect size of -0.411 ($p < 0.05$). In schools where teachers described their principal as less skillful on the instructional leadership factor the IPI subscale of total disengagement tended to be higher. Total disengagement had a significant negative correlation with instructional resource at a large effect size of -0.538 ($p < 0.01$). In schools where teachers described their principal as less accomplished on the instructional resource subscale the IPI subscale of total disengagement tended to be higher. Total disengagement had a significant negative correlation with communicator at a medium effect size of 0.430 ($p < 0.05$). In schools where teachers described their principal as less able on the communicator subscale the IPI subscale of total disengagement tended to be higher.

Predictive power of instructional leadership variables on student engagement levels
The instructional resource subscale is the best predictor of each of the three outcome variables for which any significant correlations are found as reported in Table II. Multiple regression analysis indicated that no other predictor variable added significantly to the multiple correlations for any of these three outcome variables.

Discussion of the findings
The necessity of strong instructional leadership from the principal has been espoused for many years (Smith and Andrews, 1989; Brubaker and Simon, 1986; Barth, 1990; Lashway, 1995; Leithwood, 1994; Blase and Blase, 1998). This involves many facets of leadership including providing resources, supplying instructional support, communicating, and being a visible presence in the school (Smith and Andrews, 1989). All of these skills are essential in providing an atmosphere that supports effective and engaging teaching that corresponds with student success and academic achievement.

The SAQ – strong instructional leadership factor contains 19 items that address these skills (Appendix 1). The 19 items are divided into four leadership

subscales including resource provider; instructional resource; communicator; and visible presence. Of the 19 strong instructional leadership items, ten are devoted to the principal's capacity to impact instruction in the school. The development of new theories of instruction that focus on the importance of learning as an active process, have impacted what we now believe to be effective instruction. An example is the popularity of the constructivist model of teaching and learning. Glatthorn (1984, p. 103) describes constructivism as emphasizing the learner as an active maker or constructor of meaning, and places contextualized problem solving at the center of all learning.

Leadership impacts instruction
The results of this study support the notion that leadership impacts instruction. A Pearson-product moment correlational analysis (Table II) revealed several powerful details of this relationship. The SAQ strong instructional leadership (SIL) factor correlated significantly with the IPI instructional practices rawscore ($p = 0.011$). The SIL factor also correlated significantly with three of the six IPI subscales: active learning/active teaching ($p = 0.017$), student seatwork/teacher disengaged ($p = 0.030$), and total disengagement ($p = 0.046$).

Further examination leads to an interesting observation. The SIL factor correlates with the IPI subscales only at the high engagement and low engagement subscales of the instruction continuum. The three subscales in the middle (teacher-led conversation, teacher-led instruction, and student seatwork/teacher engaged) show no significant correlation with the SIL factor. This leads one to postulate that principals who are strong instructional leaders have more of an impact on classroom instructional practice at the extremes of the engagement continuum. Traditional teacher-centered instruction, represented by the subscales in the middle of the IPI scale, is deeply rooted in the culture of our educational system and is not easily altered.

This phenomenon continues on three of the four strong instructional leadership subscales. The subscale of resource provider correlates significantly with the IPI rawscore ($p = 0.025$) and active learning/active teaching ($p = 0.041$). The instructional resource subscale correlates significantly with the IPI rawscore ($p = 0.002$), active learning/active teaching ($p = 0.006$), student seatwork/teacher disengaged ($p = 0.004$), and total disengagement ($p = 0.007$). Again, no correlation exists with the middle subscales of the IPI. The communicator subscale correlates significantly with the IPI rawscore ($p = 0.014$), active learning/active teaching ($p = 0.022$), student seatwork/teacher disengaged ($p = 0.049$), and total disengagement ($p = 0.036$). The fourth subscale of strong instructional leadership, visible presence, did not correlate with any of the IPI subscales. This indicates that being a visible presence in the building does not in and of itself significantly impact instruction.

Implications for practice
The pursuit of student success is the essential goal of our schools. To attain this goal we must provide the finest possible instruction in our classrooms. A

strong instructional leader is not necessary in providing exceptional teaching that occurs in isolation. Such leadership is however crucial in creating a school that values and continually strives to achieve an exceptional education for all students.

The results of this study provide new insight into the multifaceted world of instructional leadership. By examining principal leadership through the frames of resource provider, instructional resource, communicator, and visible presence, and analyzing the correlation of these leadership traits with instructional practice data, this study has contributed a unique perspective to the field. This inquiry has provided a bridge between research on instructional leadership and student achievement that has been deficient in the literature.

Data collected from the 24 project schools provides a glimpse at the powerful correlational relationship that strong instructional leadership has on instructional practice. The study shows that higher levels of Active Learning/ Active Teaching occur in schools where the principal serves as an instructional resource. Examples of this include setting expectations for continual improvement of the instructional program and actively engaging in staff development activities (Smith and Andrews, 1989). Higher levels of student engagement are also present in schools where the principal rates highly as a resource provider. This indicates that the principal has the ability to garner personnel and resources within the building, district, and community to achieve the school's vision and goals (Smith and Andrews, 1989). A third indicator of high levels of active learning/active teaching is a principal who promotes communication by modeling commitment to school goals, articulating a vision toward instructional goals, providing for integrated instructional planning and goal attainment, and setting and adhering to clear performance standards for instruction and teacher behavior (Smith and Andrews, 1989).

Cultural implications
Recognizing that this research occurs in the context of US images of principal leadership, one cannot presume generalizability to schools in other nations:

> Despite convergence in findings from several countries about the principal's impact on school processes, it would be premature to assume there is one key variable or similar construct existing cross-culturally that best describes principal leadership (Heck, 1996, p. 75).

Although international research illustrates many common themes germane to school administration, including the relative importance of instructional leadership, it would be wrong to simply apply assumptions rooted in Western traditions.

With the knowledge that leadership theory is often transferred across cultures with little concern for cultural validity (Hallinger and Leithwood, 1996), the generation of similar research in other countries would enhance our understanding of effective school leadership. This research would also provide

a cultural lens through which principal practices could be compared, resulting in a more robust and contextual explanation of instructional leadership:

> It is time to enrich theory and practice in education by seeking out the diversity of ideas and practices that have existed largely hidden in the shadows of the dominant Western paradigms that have guided the field (Hallinger and Leithwood, 1996, p. 101).

Implications for future research

This study provides a framework for studying principal instructional leadership variables and their impact on instructional practices. The results show that principals who are strong instructional leaders are a fundamental component in schools that embrace high levels of student engagement as the most effective medium to affect student achievement.

The study includes quantitative data indicating the high correlation and predictive power that strong instructional leadership has on instructional practice. Qualitative data will serve to inform the results of this study, and give insight into the nuances of principal leadership that are difficult to quantify. This study affords an opportunity for future researchers to interview and observe teachers and principals within schools where leadership extremes exist. What is it that highly effective principals do on a daily basis to foster an environment where teachers and students succeed? What is missing from those schools that continually fail to provide an exceptional education for all students?

Perspectives

Effective instructional leadership is not something principals achieve by following a checklist of tasks or a step-by-step program. Instructional leadership can be taught and consequently can be learned. However, there are certain intangible aspects of leadership that take time and effort. Principals must create an atmosphere of trust and patience. Teachers need to know that their efforts are valued and appreciated. Principals need to build relationships. Teachers need to know that they are free to take risks without fear of penalty. Principals need to model the value of continual learning and the ongoing pursuit of success. Teachers need opportunities to collaborate and learn from each other routinely and informally. Principals need to promote teacher participation and leadership in staff development. High expectations should be the norm for students, teachers, administrators, parents, and all other stakeholders. Above all, students must be engaged, involved and excited about their own learning.

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Appendix 1. Four dimensions of instructional leadership

Survey items: strong instructional leadership

Measurement: staff assessment questionnaire
Number of items: 19
Mean: 2.06   Standard deviation: 0.32

1. My principal leads formal discussions concerning instruction and student achievement
2. Teachers in my school turn to the principal with instructional concerns or problems
3. My principal provides frequent feedback regarding my classroom performance
4. My principal assists faculty in interpreting test results
5. My principal is an important instructional resource in our school
6. My principal promotes staff development activities for faculty
7. My principal communicates clearly to me regarding instructional matters
8. My principal is accessible to discuss matters dealing with instruction
9. My principal encourages the use of different instructional strategies
10. My principal mobilizes support to help achieve academic goals
11. Discussions with my principal result in improved instructional practice
12. My principal makes frequent classroom observations
13. My principal is knowledgeable about instructional resources
14. My principal's evaluation of my performance helps me improve my teaching
15. My principal is a strong instructional leader
16. My principal is an active participant in staff development
17. My principal is a "visible presence" in our building to both staff and students
18. My principal uses clearly communicated criteria for judging my performance
19. My principal provides a clear vision of what our school is all about

Source: Developed by Andrews and Soder (1987) – use with written permission only   **Table AI.**

Appendix 2. Instructional practices inventory – observational protocol and procedures

Selecting the observation date

(1) The process for collection of data will vary according to the needs of the school or research project. We recommend that the observation day be randomly selected. The school administration is then asked if that date is a "typical" school day. "Typical" means there are no known unusual circumstances occurring on that date that would disrupt the normalcy of the data, such as a field trip for the entire seventh grade, a two-hour assembly, a home-coming parade, an outbreak of flu that necessitates 30% substitute teachers, etc. Only "typical" school days should be scheduled for observations.

(2) We recommend selection of Monday, Tuesday, Wednesday, or Thursday for observations when possible. Obviously, the goal is to avoid Friday because some teachers view Friday as a "test" day or believe Friday may be atypical because of the interruption of regular instruction by school events during the day or the anticipation of school events for the evening or the weekend. While these may or may not be legitimate concerns, every effort is should be made to reduce concerns by teachers that the data collected are not typical. Obviously, it is important for teachers to view the data as typical so they will value the data and thus be open to addressing concerns that might arise from the data.

Prior to conducting observations

(3) One or two days before the observation date, all faculty should be informed that a colleague (from within or outside the school) will be moving throughout the school.

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Teachers should be encouraged to conduct classes as usual, essentially ignoring the presence of the observer and not interrupting what they would normally be doing. The teachers should be informed that the observer will be making observations for the purposes of: collecting research information for (name of) research project and/or collecting information about school practices for so staff and administrators can study the information and use it to inform future practices.

(4) On the day of the observation the principal should provide a map of the school that includes: floor plans; room numbers; teacher names; course content areas if appropriate (for departmentalized schools), and a notation of where substitute teachers are located on the observation day.

(5) The observer(s) must design a plan for systematically moving throughout the school so all instructional settings are observed and all are observed in proportion to other instructional settings. Typically, this means using the school map and moving logically throughout the building.

Making observations

(6) Each instructional setting (class) is observed for a period of time varying between one to two minutes to five minutes. The actual length is determined by the observer, and depends on the amount of time to be sure an accurate picture of the instructional practice is made.

(7) The observer is particularly interested in the nature of the instructional practice and degree of student engagement during the first few moments of the observation. Those first few moments are the data that should be coded. Additional time is spent in the setting as a matter of courtesy or to confirm that the initial assessment was accurate. Changes in instructional practice during the observation time may occur, but those changes should not alter the observer's coding because that code was based upon the first few moments of the observation. Coding the first few moments reduces the tendency to remain in the setting until a more positive (or negative) instructional process is used. Consistency to the concept of coding the initial instructional category will provide accurate information as multiple observations are "averaged" together over the course of the day. Be true to this rule for the most accurate data.

(8) After making an observation, move away from the instructional setting to a place of privacy (often into the hall/corridor). Discreetly record your information on the Data Recording Sheet. Observed instruction is classified as one of the six categories outlined by the IPI rubric. Mark the appropriate observation category and write a brief anecdotal description of the instructional practice. Record the additional information that applies to that observation, including Room Number, Grade Level, and Course Content. Mark the appropriate Core/Non-Core category. Core courses are defined for the purposes of the IPI as learning in the content areas of math, science, social science, and language arts (English, reading, spelling).

(9) When an instructional process is borderline between two or more of the six categories, always record the code that would be viewed as most favorable to the teacher. In other words, error on the side of the better instructional technique. For example, if you cannot decide whether the rating should be a 4 or a 5, code the 5. However, remember that the protocol expects a coding of the strategy in use when you entered the instructional setting.

(10) As the day progresses, the pace of observations usually increases. While an observer may only record 10 to 15 observations during the first hour of observations, the pace will usually increase and the length of time necessary to accurately categorize each observation will probably diminish as the observer develops familiarity with the school, the teachers, and the curriculum.

(11) Except in cases where classes are not in session, all classrooms are observed once before the observation cycle is repeated.

(12) Observations are not recorded during the first five minutes of a class or the last five minutes of a class. While one might expect quality instruction throughout a class timeframe, this protocol is followed to assure teachers, who must value these data, that the information is not skewed because they spent a few minutes recording roll, getting the kids warmed up, or closing down the class with deskwork or a rest period. Remember, if these data are to be of use, teachers must believe they have been observed fairly, so as stated previously, always error in favor of good instruction.

(13) At mid-day, review both the number of observations and the balance of observations across grade levels and course content areas. If necessary, adjust accordingly during the afternoon observations to ensure a balance of observations proportionate to the grade level and curriculum of the school.

(14) One hundred observations per day should be considered a minimum number of observations regardless of the size of the school. In smaller schools, that means the same teachers may be observed many times throughout the day. In larger schools, the same teachers will be observed less frequently. While a mathematical argument could be made for a minimum number of observations (a ratio of observations to classes taught), experience confirms that one hundred observations is adequate in the minds of educators who are asked to indicate if the data are representative of their schools. Many experienced observers collect one hundred and thirty or forty observations during a school day; one hundred observations in a day is a reasonable task for one observer.

(15) Special education classes are observed in proportion to all classes. They are categorized as core or non-core based upon the content of the lesson.

(16) If substitute teachers are observed, the observations are not recorded (typically). The only exception to that would be if the lesson is categorized as a 5 or 6, indicating that the substitute is a high quality teacher and/or the regular teacher provided lesson plans that move the learning to a high level of student engagement. As with protocols 9 and 12, this rule is designed to error in favor of better instructional practice.

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